

**METHODS AND APPARATUS FOR ANALYZING FLUTTER TEST DATA USING
DAMPED SINE CURVE FITTING**

ABSTRACT OF THE DISCLOSURE

Methods and apparatus for analyzing flutter test data using damped sine curve fitting. In one embodiment, a plurality of data points are read, with each data point representing an amplitude versus a test time. A number "N" of damped sine waves to fit to the plurality of data points is determined, and the number "N" of damped sine waves is fit to the plurality of data points using a non-linear "N" damped sine wave fitting algorithm.